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Identity: The Last Bastion Security Control in a SaaS World

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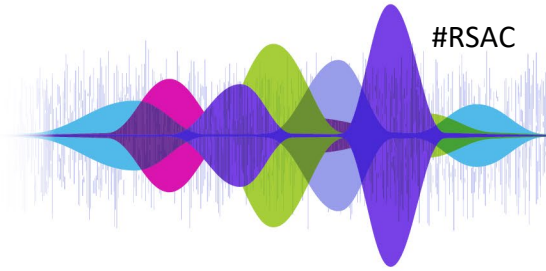

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Agenda

- Insights from the History of Identity Technologies
- Current State of the Identity Ecosystem
- Preparing for the Worst: 2025 Attack Paths
- Prioritizing Identity in the Age of AI
- Building Your Own Identity Roadmap

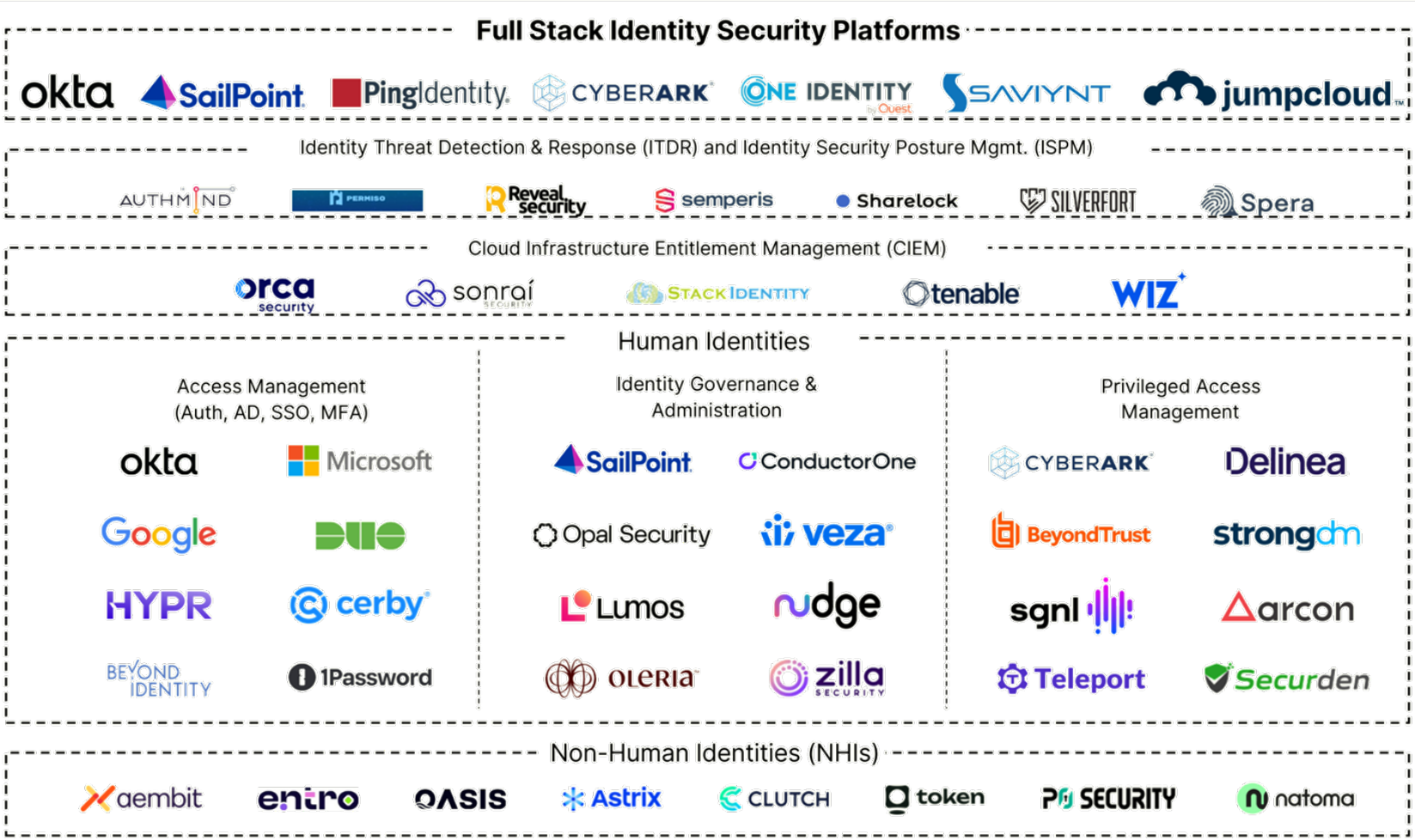
4 Decades of Identity Adoption Trends

1960s	**Passwords**	1990s	**Strong MFA**	Mid-2000s	**Privileged User Mgmt**	Mid-2010s
Usernames	1980s	**UNIQUE Usernames**	2000s	**Identity Governance**	2010s	**Single Sign On (IdPs)**

- 2000:
  - Firewall budgets were 1000X Identity budgets
- Active Directory warped the Identity market
  - “AD is my identity solution!”
- SaaS and AI have exposed 3 decades of atrocious under-investment
- Under-investment has created a gap in skills and availability of architects
- As IANS Faculty: 3000+ Identity and Access Management Consulting Calls since 2006

2025: State of the Identity Ecosystem

- Fragmented
- Lacking Economies of Scale
- Continued market warping due to Microsoft



https://www.madrona.com/workforce-identity-security/

Nation/State Identity Attacks: Diverse IdPs = Bad

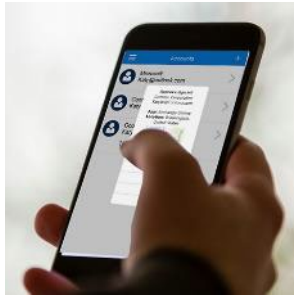
- The more identity platforms you have, the larger your identity attack surface
- REDUCE the number of IdPs ASAP
- For M365 organizations: Entra ID (especially eliminating on-prem AD)
- For non-M365 organizations: JumpCloud

https://media.defense.gov/2020/Dec/17/2002554125/-1/-1/0/AUTHENTICATION_MECHANISMS_CSA_U_OO_198854_20.PDF

2025 Identity Attack Path

Nation/State cyber team contracted with off-shore attacker groups with combination of **social media and infrastructure** skills targeting infrastructure operator

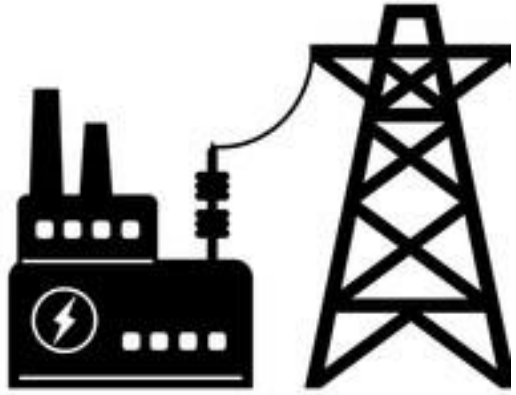
Purchased LinkedIn search results targeting **personal information** of operating engineers



Mobile phone numbers used to profile any personal mobile devices used for authentication for **mobile OS vulnerabilities and MFA auth cloning**

Personal email addresses used to send emails to obtain **IP addresses of home network**, profiling of home network equipment for **firmware vulnerabilities**

Attackers waited until **OT-destined VPN session** initiated and followed along, using home router as command-and-control connection

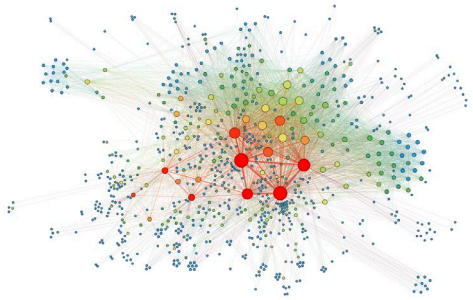


Compromised home router and personal device to target corporate-managed laptop

Prioritizing Identity in the Age of AI

- Eliminate legacy identities ASAP
  - Per-database, NTLM and Kerberos identities should be terminated ASAP
- OAuth is the future
  - Focus on end-to-end identities from data sources to analytics platforms to user interfaces
- Segment Knowledge Worker and Privileged User Identities
  - Most organization IT workers should have 3 identities
    - Daily driver (email, collaboration, etc.)
    - Legacy privileged account (preferably with a vaulting solution)
    - Cloud privileged account (preferably with a Yubikey and JIT privileges)

Building Your Own Identity Roadmap



- Assess ACTUAL identity protocol use across the organization
  - Network traces/PCAPs DO NOT LIE
  - https://gravwell.io
- Enumerate all identities used by knowledge workers as well as developers and administrators
  - PowerShell/Bash scripts are your friend
  - Goal is to achieve 1:1 mapping between every process in memory and a digital identity across the environment
- Cloud user accountability
  - Move to SSO ASAP, but in the interim use CSPM or other cloud visibility tools to understand the scale of the privileged user problem
- Developers Developers Developers
- Moving to modern Identity Providers is possible!

```
#!/bin/bash

# List all user accounts from /etc/passwd
echo "User accounts on this server:"
awk -F: '{ print $1 }' /etc/passwd

echo ""
echo "Last login times for each user:"
echo "--------------------------------"

# Check last login time for each user
awk -F: '{ print $1 }' /etc/passwd | while read user; do
    lastlog -u "$user"
done
```

Create Measurable Plans for Strategic Improvements

- Identity Governance:
  - Clean HR data goes a long ways to automating on/off-boarding
- Privileged User Management:
  - Driving discipline across admins and devs to require vaulted credentials pays huge dividends
- Federated Identities
  - Single Sign On and Passwordless reduce the risk of phishing and other credential theft

Go Make Identity Better In Your Organization!

- Can you partner with your network operations team to look at the use of identity authentication protocols?
- Can you work with your HR team to make sure that you have really solid ‘sources of truth’ for role based access control?
- Are there DevOps teams/processes that you can monitor for how privileges are used today for Dev/Test/Prod situations?
- What is the intersection of non-human identities and secrets and your current program capabilities? SSL Certs? SSH Keys?

Whichever Direction You Go…

- User identity information quality matters – clean it up whenever you can
- Non-human identities are generally the easiest to abuse – inventory them as soon as possible
- MFA exemptions are material regardless of what type of account – reduce those exemptions
- Reduce your identity attack surface whenever possible

Identity Roadmap Resources

- 4 Free IANS Research Whitepapers to help you navigate the identity landscape:
- Privileged Access Management
- Non-Human Identity Management
- Entra ID SSO Tips
- IAM Program Best Practices

https://iansresearch.com/resources/infosec-content-downloads

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Thank You!